

AMENDMENTS TO THE DRAWINGS

The attached sheets of drawings add a reference character and lead line to FIG. 3.

Attachments: One (1) Replacement Sheet (FIG. 3)
 One (1) Annotated Sheet (FIG. 3)

REMARKS/ARGUMENTS

In this Third Amend, Applicant amends the drawings to add a reference character and lead line to FIG. 3. Applicant also amends claim 6 to change dependency. Additionally, Applicant amends claims 3-8, 16 (two times), 17, 22, 24, 26, and 47 to recite, inter alia, “the portion”; amends claim 7 to recite, inter alia, “time-domain compensated received signal”; amends claims 9, 16 (three times), 17 (two times), 22, 24, 26, 28, and 29 to recite, inter alia, “the impulse noise”; amends claims 12-15 to recite, inter alia, “the total noise”; amends claims 15 (two times) and 33 (four times) to recite, inter alia, “frequency-domain product”; amends claim 19 to recite, inter alia, “the peaks of the MCM signal above the threshold”; amends claims 24, 29, 31, 33, 41, and 42 to recite, inter alia, “further is operable”; amends claim 40 (two times each) to recite, inter alia, “IFFT” and “FFT”; amends claim 43 to recite, inter alia, “to estimate an impulse noise in the equalized signal, and to remove the estimated impulse noise from the equalized signal”; and amends claim 48 to recite, inter alia, “the frequency-domain version”; all in order to better define the claimed invention. Moreover, Applicant makes other amendments to the claims in order to improve clarity. No new matter is introduced.

Prior to entry of the Third Amend, claims 1-48 were pending in the application. After entry of the Third Amend, claims 1-48 remain pending in the application.

In the Third OA, the Examiner appears to have objected to the drawings under 37 C.F.R. § 1.84(p)(5); objected to claims 3-8, 10-17, 19, 24, 26, 28, 29, 31, 33, 39-42, 47, and 48;¹ rejected claims 7, 8, 26, 27, 39-42, 47, and 48 under 35 U.S.C. § 112, ¶ 1; rejected claims 8 and 15 under 35 U.S.C. § 112, ¶ 2; rejected claims 1-4, 18, 19, and 46-48² under 35 U.S.C. § 102(e) as being anticipated by U.S. Patent No. 6,771,591 B1 to Belotserkovsky et al. ("Belotserkovsky II");³ and rejected claims 43 and 45 under 35 U.S.C. § 103(a) as being unpatentable over Belotserkovsky II in view of U.S. Patent No. 5,802,117 to Ghosh ("Ghosh").⁴

The Examiner also appears to have allowed claims 20-23, 25, 30, 32, and 34-38; indicated that claims 24, 28, 29, 31, and 33 would be allowable if rewritten or amended to overcome the objections of the Third OA; indicated that claims 5, 9-14, 16, and 17 would be allowable if rewritten or amended to overcome the objections of the Third OA and to include all of the limitations of the base claim and any intervening claims;⁵ indicated that claim 15 would be allowable if rewritten or amended to overcome the rejection under 35 U.S.C. § 112, ¶ 2, and to include all of the limitations of the base claim and any

¹ Section 4 on page 3 of the Third OA purports to object to claims 3-17, 19, 24, 28, 29, 31, 33, 39-42, 47, and 48. However, Applicant is not able to find a specific objection to claim 9 in that section. In contrast, Applicant does find a specific objection to claim 26 in that section.

² Section 10 on page 7 of the Third OA purports to reject claims 1-4, 6, 18, 19, and 46-48. However, Applicant is not able to find a specific rejection of claim 6 in that section.

³ Belotserkovsky II so as to distinguish it from European Patent Application No. 1,178,642 A2 to Belotserkovsky et al. ("Belotserkovsky I"), already of record in the present application.

⁴ Section 12 on page 9 of the Third OA states that the "application currently names joint inventors". However, the Declaration and Power of Attorney document lists Sergey Zhidkov as the sole inventor of the present application.

⁵ Section 16 on page 12 of the Third OA purports to indicate that claims 5 and 9-17 would be allowable. However, claim 15 is dealt with separately under section 17 on page 12.

intervening claims; and indicated that claim 44 would be allowable if rewritten in independent form to include all of the limitations of the base claim and any intervening claims.

Objection to the Drawings

As discussed above, Applicant amends the drawings to add a reference character and lead line to FIG. 3. Applicant submits that this amendment obviates the objection to the drawings under 37 C.F.R. § 1.84(p)(5) and requests that the objection be withdrawn.

Applicant requests that the Examiner update the status of the drawings in the next paper mailed by the U.S. Patent and Trademark Office (“USPTO”).

Objections to the Claims

As discussed above, Applicant amends claims 3-9, 12-15, 16, 17, 19, 22, 24, 26, 28, 29, 31, 33, 40-43, 47, and 48, all in order to better define the claimed invention.

Applicant does not amend claim 5, 7, or 11 to recite “further comprises” because none of those claims (or the claims from which they depend) recites “comprises” in the same context. Thus, Applicant submits that the recitation “further comprises” is unwarranted and incorrect in these instances. Applicant also submits that “FFT” is a proper acronym for fast Fourier transformation and/or fast Fourier transformation, “FFTR” is a proper acronym for fast Fourier transformer, “IFFT” is a proper acronym for inverse fast Fourier transformation and/or inverse fast Fourier transformation, and “IFFTR” is a proper acronym

for inverse fast Fourier transformer. Applicant submits that the claims, as amended, use these acronyms consistently.

Applicant submits that these amendments and this discussion obviate the objections to the claims and requests that the objections be withdrawn.

Rejections Under 35 U.S.C. § 112, ¶ 1

The Third OA appears to base these rejections on its allegation that “claim 20 is directly related to the block elements shown in the embodiment of Figure 3.” Third OA, page 5, § 6.

While Applicant admits that Fig. 3 is related to the recitations of claim 20, Applicant submits that Figs. 7A, 11A, and 12A (as well as other figures) also are related to the recitations of claim 20. Thus, the recitations of claim 20 are not exclusive to Fig. 3, as the Third OA has attempted to characterize them.

Applicant submits that this discussion obviates the rejections of claims 7, 8, 26, 27, 39-42, 47, and 48 under 35 U.S.C. § 112, ¶ 2, and requests that the rejections be withdrawn.

Rejections Under 35 U.S.C. § 112, ¶ 2

As discussed above, Applicant amends claim 7 to recite, inter alia, “time-domain compensated received signal”, and amends claim 15 (two times) to recite, inter alia, “time-domain version of the frequency-domain product”; both in order to better define the claimed invention. Applicant submits that these

amendments obviate the rejections of claims 8 and 15 under 35 U.S.C. § 112, ¶ 2, and requests that the rejections be withdrawn.

Rejections Under 35 U.S.C. § 102(e)

Applicant submits that the Third OA fails to establish a proper prima facie case of anticipation of claims 1-4, 6, 18, 19, and 46-48 under 35 U.S.C. § 102(e) for at least the following reasons.

Applicant submits that channel estimate unit 54 of Belotserkovsky II does not appear to estimate impulse noise. Instead, channel estimate unit 54 of Belotserkovsky II appears to “invert[] the equalizer tap values to form an estimate of the channel frequency response”. Belotserkovsky II, c. 3/ll. 58-61 (emphasis added).

And because channel estimate unit 54 of Belotserkovsky II does not appear to estimate impulse noise, Belotserkovsky II also does not appear to disclose removing a portion of the noise from the equalized signal as a function of the estimated impulse noise.

For at least these reasons, Applicant submits that claims 1-4, 6, 18, 19, and 46-48 are patentable under 35 U.S.C. § 102(e) over Belotserkovsky II.

Rejections Under 35 U.S.C. § 103(a)

Applicant submits that the Third OA fails to establish a proper prima facie case of obviousness of claims 43 and 45 under 35 U.S.C. § 103(a) for at least the following reasons.

As discussed above, Belotserkovsky II does not appear to disclose estimating impulse noise.

As also discussed above, Belotserkovsky II does not appear to disclose removing a portion of the noise from the equalized signal as a function of the estimated impulse noise.

The Third OA does not argue that Ghosh overcomes these deficiencies of Belotserkovsky II.

For all of these reasons, Applicant submits that claims 1-4, 6, 18, 19, 43, and 45-48 are patentable under 35 U.S.C. § 103(a) over Belotserkovsky II and Ghosh.

Request for Reconsideration and Allowance

Accordingly, in view of the above amendments and remarks, reconsideration of the rejections and allowance of each of claims 1-48 in connection with the present application is earnestly solicited.

Should there be any outstanding matters that need to be resolved in the present application, the Examiner is respectfully requested to contact the undersigned at the telephone number listed below.

If necessary, the Director of the USPTO is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 08-0750 for any additional fees required under 37 C.F.R. § 1.16 or under 37 C.F.R. § 1.17; in particular, extension of time fees.

Respectfully submitted,

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JAC/LFG:hcw

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FIG. 3

